

5-17-17

Aim: SWBAT solve systems of linear equations graphically.

Do Now: Quiz

HW: Pg. 628 # 1-3, 7

Test Wednesday of next week

Review Packet due June 2nd

$$\begin{array}{l} \boxed{x+y=5} \\ \boxed{y=2x-1} \end{array} \rightarrow \begin{array}{l} \cancel{x} + y = 5 \\ -\cancel{x} \quad -x \\ \hline y = -x + 5 \end{array}$$

$m=2 \rightarrow \frac{2}{1}$  2 up  
1 right  
coord. of y-int  
(0, -1)

$m=-1 \rightarrow \frac{-1}{1}$  1 down  
1 right  
coord. of y-int  
(0, 5)

• •

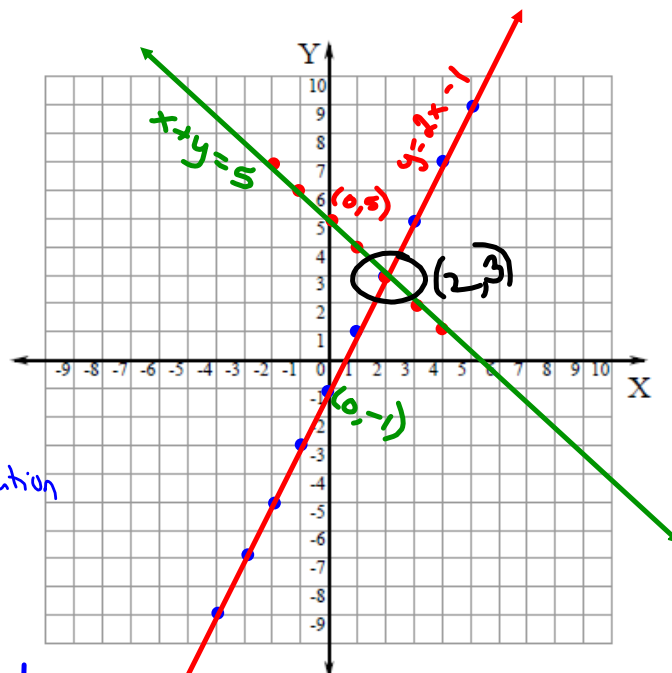
Solution  
 $(2, 3)$

$$\begin{array}{l|l} x+y=5 & y=2x-1 \\ 2+3 \stackrel{?}{=} 5 & 3 \stackrel{?}{=} 2 \cdot 2 - 1 \\ 5 = 5 & 3 = 3 \end{array}$$

$(2, 3)$  is a solution  
to  $x+y=5$ .

$(2, 3)$  is a solution  
to  $y=2x-1$ .

Since  $(2, 3)$  satisfied each equation, it is part of each equation's solution set. Therefore, it is the point of intersection.



$$\begin{array}{r} x + 4y = 4 \\ x - y = -6 \\ \hline -x \quad -x \\ \hline \cancel{y} = -x - 6 \\ \quad \quad \quad -1 \\ y = x + 6 \\ m = 1 \\ b = 6 \\ \text{coord. of } y\text{-int } (0, 6) \end{array}$$

$$\begin{array}{r} x + 4y = 4 \\ -x \quad \quad -x \\ \hline \cancel{4y} = \frac{-x + 4}{4} \\ y = \frac{-1}{4}x + 1 \\ m = \frac{-1}{4} \\ b = 1 \\ \text{coord. of } y\text{-int } (0, 1) \end{array}$$

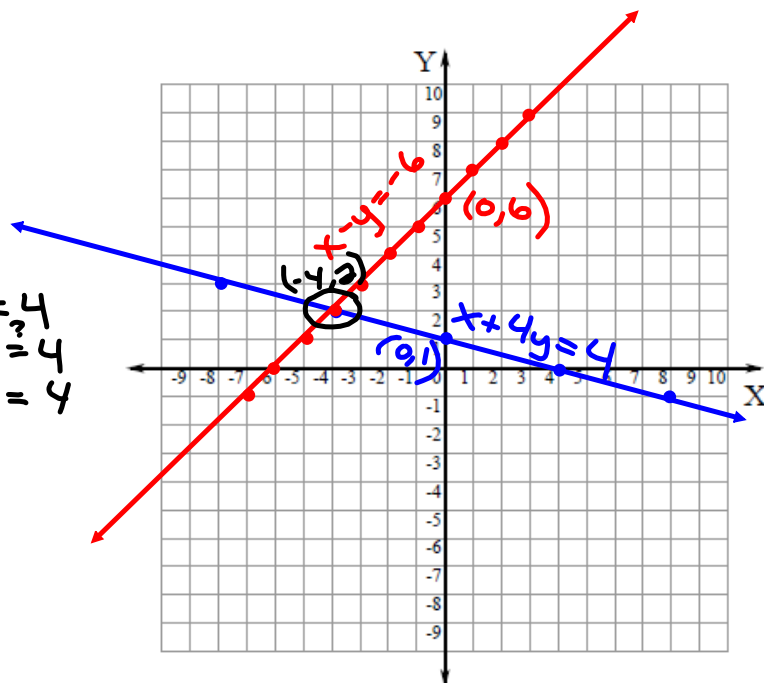
$x - y = -6$   
 $-4 - 2 = -6$   
 $-6 = -6$

solution  
 $(-4, 2)$

$x + 4y = 4$   
 $-4 + 4(2) = 4$   
 $-4 + 8 = 4$   
 $4 = 4$

$(5, 5)$

$x - y = -6$   
 $5 - 5 = -6$   
 $0 \neq -6$



What is the same about these lines?

$$y = 2x + 1$$

$$y = 2x - 3$$

the slope

What is the relationship between these lines?

they are ||

What do you think is the solution to the system of equations?

no solution

What would have to be the same about the lines in a system if they had infinite solutions?

they are the same line